

REMARKS

Reconsideration is respectfully requested. Claims 1-17 have been cancelled. Claims 20 and 22 have been amended. Claims 18-26 are pending.

The amendments are not in response to a rejection, and have not been made for a reason relating to patentability under United States Code Title 35. Applicants have not dedicated or abandoned any unclaimed subject matter.

In the communication dated February 23, 2005, the Examiner stated that "the amendment filed 11/29/2004 canceling all claims drawn to an elected invention and present in only claims drawn to a non-elected invention is non-responsive." Specifically, the Examiner asserts that

"the claims are not readable on the elected invention because, first, the method as now claimed has a different effect. Second the method as claims requires steps not required for the methods as originally claimed such as 'inserting one or more high energy rotamers'; conversely, the previous method claims recite steps not required in the instant claims, such as identifying scaffold lacking enzyme activity, or inserting active site domains."

Applicants respectfully traverse the Examiner's position that the claims are directed to a non-elected invention.

Canceled claim 1 recited:

1. A method of screening for protozymes, said method comprising:
 - a) identifying a suitable protein scaffold lacking a desirable enzyme-like activity;
 - b) inputting a protein backbone structure of said protein scaffold into a computer, wherein said backbone structure has variable residue positions ;
 - c) inserting an active site domain into said scaffold;
 - d) applying at least one protein design cycle;
 - e) generating a set of candidate variant proteins with putative enzyme-like activity;
 - f) synthesizing a plurality of said candidate variant proteins with putative enzyme-like activity; and,
 - g) testing said candidate variant proteins with putative enzyme-like activity and selecting at least one of said candidate variant proteins with enzyme-like activity.

New claim 18 recites:

18. A method of identifying enzymes with novel catalytic activity, comprising:
- a) inputting the three dimensional coordinates of a target protein structure with variable residue positions into a computer;
 - b) inserting one or more high energy rotamers into said target protein;
 - c) applying at least one protein design cycle to the target protein structure;
 - d) generating a set of candidate enzymes with putative catalytic activity;
 - e) synthesizing a plurality of said candidate enzymes;
 - f) testing said candidate enzymes for said catalytic activity; and
 - g) selecting at least one candidate enzyme with catalytic activity.

Cancelled claim 1 and new claim 18 are directed to methods. The order of the method steps in independent claim 18 generally corresponds to the order of the method steps in cancelled claim 1. Specifically, both canceled claim 1 and new claim 18 recite steps of inputting, inserting, applying at least one protein design cycle, synthesizing a plurality of candidates, testing the candidates, and selecting at least one candidate. While certain claim terms in some method steps differ between cancelled claim 1 and pending claim 18, the order of the method steps remains the same.

The only method step no longer recited is a step of “identifying a suitable protein.” Applicants respectfully submit that removing a single step in a method in which the order of the remaining method steps is maintained merely broadens the claim scope of the claimed method with respect to that step, and does not correspond to claiming a non-elected invention.

With respect to the assertion that the claims are drawn to a non-elected invention, Applicants respectfully submit that the claims are drawn to the elected species. In the restriction/election requirement of February 13, 2004, the Examiner did not restrict the claims, and required an election of species. In the response of March 11, 2004, Applicants elected i) the embodiment of claim 2, where timing of the insertion was done at the same time as the protein design cycle, and ii) the embodiment of claim 7, wherein the active catalyzes a known enzymatic reaction. Pending claim 20, like canceled claim 2, is directed to the method where timing of the insertion was done at the same time as the applying step. Pending claim 19, like cancelled claim 7, is directed to an embodiment in which the active site domain catalyzes a known enzymatic reaction. As such, the

pending claims are directed to the previously elected species, and are not outside the scope of the elected species, as alleged by the Examiner.

Conclusion

As the pending claims are in condition for allowance, Applicants respectfully request early and favorable consideration. Please direct further questions in connection with this Application to the undersigned at (415) 781-1989.

Respectfully submitted,

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